	Application No.	Applicant(s)
Notice of Allowability	09/931,105	YOSHIDA ET AL.
	Examiner	Art Unit
	Lisa Hashem	2645
The MAILING DATE of this communication appears on the cover sheet with the correspondence address All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.		
1. This communication is responsive to <u>1-10-2005</u> .		
2. The allowed claim(s) is/are <u>1-15.</u>		
3. ☑ The drawings filed on <u>8-17-2001</u> are accepted by the Examiner.		
4.		
Attachment(s)  1.  Notice of References Cited (PTO-892)  2.  Notice of Draftperson's Patent Drawing Review (PTO-948)  3.  Information Disclosure Statements (PTO-1449 or PTO/SB/0 Paper No./Mail Date  4.  Examiner's Comment Regarding Requirement for Deposit of Biological Material	6. ☐ Interview Summary Paper No./Mail Da 8), 7. ☑ Examiner's Amenda	te

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## **EXAMINER'S AMENDMENT**

- 1. The restriction of claims 1-10, 11-12, and 13-15 filed on 12-16-2004 is withdrawn.
- 2. Claims 1-15 are pending in this application.
- 3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
- 4. Authorization for this examiner's amendment was given in a telephone interview with Eckhard Kuesters (Reg. No 28,870) on June 23, 2005.
- 5. The application has been amended as follows:

Claim 12 on page 53, line 19 recites:

ratio to output a third local signal.

This is amended to recite:

ratio to output a third local signal;

The '.' is changed to a ';'.

## Allowable Subject Matter

6. The following is an examiner's statement of reasons for allowance: upon close review of the claims, the prior art, and applicant's remarks it appears that the allowance of claims 1-12 are appropriate.

Referring to the claimed invention, U.S. Patent No. 5,220,684 by Suizu discloses a channel selecting circuit comprising: a first synthesizer or tuner (Fig. 1: 12a, 12b) which outputs a signal of which frequency is within one of a plurality of frequency bands; a second synthesizer

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or reference oscillator (Fig. 1, 263) which outputs a fixed frequency signal; a mixer (Fig. 1, 12c) which mixes the signal output from the first synthesizer with a signal output from an amplifier; a first divider (Fig. 1, 262) which divides the frequency signal output from the first synthesizer by a first division ratio; a second divider (Fig. 1, 264) which divides a signal output from the second synthesizer by a second division ratio; a third divider (Fig. 1, 265) which divides the frequency signal output from the first divider by a third division ratio; and a fourth divider (Fig. 1, 266) which divides the signal output from the second divider by a fourth division ratio (col. 3, line 43 – col. 4, line 55).

U.S. Patent No. 5,497,128 by Sasaki, discloses a frequency synthesizer comprising: a first synthesizer (Fig. 3, 31) which outputs signal of which frequency is within one of a plurality of frequency bands; a second synthesizer (Fig. 3, 32) which outputs signal of which frequency is within one of a plurality of frequency bands; a first divider (Fig. 3, 33) which divides a signal output from the first synthesizer by a first division ratio; a first multiplier (Fig. 3, 35) which multiplies the frequency of the signal output from the first divider; a second divider (Fig. 3, 34) which divides a signal output from the second synthesizer by a second division ratio; a second multiplier (Fig. 3, 36) which multiplies the frequency of the signal output from the second divider; and a combining circuit (Fig. 3, 37) which outputs a signal output from the first and second multipliers (col. 5, line 41 – col. 8, line 21).

U.S. Patent No. 6,574,462 by Strange discloses a local oscillator circuit that may be used in a dual frequency radio frequency receiver (e.g. GSM or DCS) (multi-band apparatus) comprising: a first synthesizer (Fig. 4, 32) which outputs signal of which frequency is within one of a plurality of frequency bands; a first mixer (Fig. 3, 36) which multiplies the frequency of the

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signal output from the first synthesizer; a second mixer (Fig. 4, 38) which multiplies the

frequency of the signal output from the first synthesizer; a first divider (Fig. 4, 46) which divides

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a signal output from the first and second mixer by a first division ratio; a second divider (Fig. 4,

46) which divides a signal output from the first divider by a second division ratio; and a switch

(Fig. 3, 37) which outputs either a signal output in DCS mode or GSM mode (col. 3, line 47 –

col. 4, line 59).

None of the prior art disclose a frequency synthesizer comprising a small number of

unit synthesizers and has a small circuit scale and a multi-band radio apparatus comprising a

frequency synthesizer, as shown in Figures 1-11 and as claimed in Claims 1, 7, 9, 11, 12, 13, 14,

and 15.

7. Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

Conclusion

8. Any response to this action should be mailed to:

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Or faxed to:

(703) 872-9306 (for formal communications intended for entry)

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Or call:

(571) 272-2600 (for customer service assistance)

9. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Lisa Hashem whose telephone number is (571) 272-7542. The

examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Fan Tsang can be reached on (571) 272-7547. Any inquiry of a general nature or

relating to the status of this application or proceeding should be directed to the Group

receptionist whose telephone number is (571) 272-2600.

10. Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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June 23, 2005

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